



PATENT SPECIFICATION

Application Date: Jan. 30, 1928. No. 2964/28.

310.781

Complete Left: Oct. 30, 1928.

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PROVISIONAL SPECIFICATION.

Improvements in or relating to Mudguards for Road Vehicles.

I, JOHN DUNAMACE HEATON-ARMSTRONG, of 2, Albert Court, in the County of London, S.W. 7, a British Subject, do hereby declare the nature of this invention to be as follows:—

This invention relates to mudguards for motor cars and other road vehicles and in particular to close fitting mudguards designed for the steering wheels and adapted to turn therewith.

Hitherto mudguards of the close fitting type arranged to turn with the steering have been mounted rigidly from a part which turns with the wheels, as for instance, the brake anchor plate when front wheel brakes are fitted. In practice the vibration and weight of the guards tend to crystalise and fracture the brake anchor plate or other part of the steering mechanism of the vehicle from which they are supported, and this may have serious consequences as this type of guard is usually fitted to the high speed sporting type of car.

The object of this invention is to provide an improved mudguard and mounting.

According to this invention the mudguard is pivotally supported from an arm or bracket secured to the non-steering part of the axle, as for instance beneath the spring clips.

In an alternative form the mudguard is mounted on an extension—sprung or otherwise fitted with a vibration damping device or shock absorber—fitted to or forming a part of the pivot pins about which the stub-axles move. In another alternative form the mudguard is mounted on an arm or pillar forming part of, or fixed to the axle itself. The mudguard is preferably balanced about the pivot point and is constrained to turn with the wheel by one or more jointed rods pivotally secured and forming a connection between the brake anchor plate or other part

which turns with the steering and the mudguard. The supporting pivot may be movably supported from the arm or bracket so as to allow for slight lateral displacement, i.e. towards or away from the car, as for instance, by a fork joint. All pivot points may be provided with friction elements or shock absorbers to damp out vibration and the connections to the axle hub or plate may be provided with rubber pads or other antivibration devices. The supporting pivot of the mudguard is preferably disposed over and in line with the stub axle and may comprise a ball bearing unit mounted on the arm or bracket and any convenient form of anti-vibration device such as rubber pads may be employed in the mounting for the purpose of preventing vibration being transmitted to the bracket.

Means may be provided for anchoring the arm or bracket to the chassis or spring shackle or otherwise, and means may be provided by which the connections with the axle hub or plate may automatically become disengaged in the event of the main supports becoming damaged or broken. Means may also be provided for supporting the arm by an extension of the arm which may be provided with a wheel or roller adapted to bear on the brake drum, and with or without a shock absorbing device.

It will be seen that the majority of the weight is carried by the bracket which is mounted from a part of the vehicle which does not turn with the steering and the use of jointed or pivotted members for turning the guard with the wheel and the employment of anti-vibration devices and friction elements insulates the vital steering mechanism of the vehicle from vibrations set up in the guards.

Dated this 30th day of January, 1928.

MEWBURN, ELLIS & Co.,
70/72, Chancery Lane, London, W.C. 2.

COMPLETE SPECIFICATION.

Improvements in or relating to Mudguards for Road Vehicles.

I, JOHN DUNAMACE HEATON-ARMSTRONG, of 2, Albert Court, in the County of London, S.W. 7, a British Subject, do hereby declare the nature of this invention to be as follows:—
[Price 1/-]

tion and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to mudguards for motor cars and other road vehicles and in particular to close fitting mudguards designed for the steering wheels and adapted to turn therewith.

10 Hitherto mudguards of the close fitting type arranged to turn with the steering have been mounted rigidly from a part which turns with the wheels, as for instance, the brake anchor plate when
15 front wheel brakes are fitted. In practice the vibration and weight of the guards tend to crystallise and fracture the brake anchor plate or other part of the steering mechanism of the vehicle from which
20 they are supported, and this may have serious consequences as this type of guard is usually fitted to the high speed sporting type of car.

The object of this invention is to provide an improved mudguard and mounting.

According to this invention the mudguard is pivotally supported from the non-steering part of the axle or chassis,
30 as for instance by an arm or bracket secured beneath the spring clips. The supporting pivot of the mudguard is preferably disposed over and in line with the stub axle and may be provided with
35 a ball bearing unit or other anti-friction device mounted on the arm or bracket and any convenient form of antivibration device such as rubber pads may be employed in the mounting for the purpose
40 of preventing vibration being transmitted to the mounting. The mudguard is constrained to turn with the wheel and is preferably balanced about the pivot point. The turning may be effected by one or
45 more jointed rods pivotally secured and forming a connection between the brake anchor plate or other part which turns with the steering and the mudguard. All pivot points may be provided with
50 friction elements or shock absorbers to damp out vibration or any tendency to oscillate and the connections to the axle hub or plate may be provided with rubber pads or other antivibration devices and
55 silent bushes known as silent block fittings may be incorporated.

Means are provided for anchoring the arm or bracket to the chassis or the arm may be clamped under the spring shackle
60 or otherwise, and means may be provided by which the connections with the axle hub or plate may automatically become disengaged in the event of the main supports becoming damaged or broken.

65 In an alternative form the mudguard

is mounted on an extension—sprung or otherwise fitted with a vibration damping device or shock absorber—fitted to or forming a part of the pivot pins about which the stub-axles move. In another
70 alternative form the mudguard is mounted on an arm or pillar forming part of, or fixed to the axle itself.

It will be seen that the weight is carried by the bracket which is mounted from a
75 part of the vehicle which does not turn with the steering and the use of jointed or pivoted members for turning the guard with the wheel and the employment of anti-vibration devices and friction elements insulates the vital steering mechanism of the vehicle and other parts from
80 vibrations set up in the mudguards, and vice versa.

In the construction about to be described the mudguard is supported from the axle or unsprung part of the chassis. If, however, the mudguard is supported from the sprung part of the chassis, the link mechanism for turning the mudguard will be preferably controlled from the part of the steering mechanism which is also sprung; otherwise the link mechanism will have to be provided with a compensating device to allow for the up and down and swaying movement of the body relative to the unsprung portion of the steering mechanism.

In the drawing filed herewith, Fig. 1 illustrates one form of mudguard made in accordance with this invention, Fig. 2 is an end elevation of Fig. 1, Fig. 3 is a detail sectional view of the bearing assembly, Fig. 4 is a detail view of one of the links.

The mudguard *a* has a bracket *b* securely fastened thereto. The bracket *b* is formed with a lug *b*¹ provided with an inner lining *b*² adapted to be pivotally mounted on a bolt *c*. Rubber packing is disposed between the lining *b*² and the lug *b*¹ so as to absorb shock and vibration. Resilient washers *b*³ are provided to cushion the vertical movement of the bracket *b*. The angle bracket *d* is secured at one end to the front axle *e* of the vehicle and carries at the other end the bolt *c* securely fastened thereto. The bracket *d* is preferably of spring steel and is shaped and mounted so that the bolt *c* lies approximately in the axis of the stub axle pin so that the mudguard and wheel turn about the same axis. Pivottally mounted on the bolts *f* secured in the mudguard are two links *f*¹ which carry eye bolts *f*² pivotally mounted therein, the pivot bearings being provided with silent block fittings *f*³. Arms *g* each secured by one end to one of the eye bolts *f*² have friction surfaces *h* at their other end.

The arms *g* are arranged with the friction surfaces *h* disposed on each side of a plate *k* and friction discs *l* are interposed between the ends of the arms *g* and the plate *k*, the surfaces being held in contact by the bolt *j*. The links *f*¹ permit the mudguard to move within certain limits relative to the plate *k* without transmitting a strain to the plate *k*, such movement being caused by springing of the angle bracket *d*.

The plate *k* is provided with an arm *m* in which is mounted a bolt *n* adapted to be secured to a lug *o* on the steering portion of the stub axle of the vehicle so that when the latter turns the mudguard turns with it. As the plate *k* does not carry any appreciable weight and the pivots are all provided with silent block fittings, no appreciable shock or vibration can be transmitted to the stub axle and therefore there is no fear of the steering mechanism or other parts of the car becoming crystallised, or of the vibrations of the axle being transmitted to the mudguard and its mountings.

It is to be understood that the invention is not limited to the exact construction shown or modifications suggested and variations can be effected without departing from the scope of the invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A close fitting mudguard for the steering wheels of a road vehicle characterised in that the mudguard is pivotally supported from the non-steering part of the vehicle.

2. A mudguard according to claim 1 characterised in that the pivot for the mudguard is co-axial with the pivot of the wheel.

3. A mudguard according to the preceding claims characterised in that pivot for the mudguard is mounted in a bearing supported in a resilient mounting.

4. A mudguard according to claims 1, 2 and 3 characterised in that the pivot is mounted in anti-friction bearings.

5. A mudguard according to the preceding claims characterised in that the bearing for the pivot is supported in a bracket secured to the non-steering part of the axle.

6. A mudguard according to claims 1, 2 or 3 characterised in that the pivot is supported from an extension of the stub axle pin.

7. A mudguard according to claims 1, 2 and 3 characterised in that the pivot is supported on a bracket secured to the sprung part of the chassis.

8. A mudguard according to the preceding claims characterised in that the mudguard is constrained to turn with the wheel through the medium of control arms connected to a part of the vehicle which turns with the steering and arranged so that normally no appreciable part of the weight of the mudguard is supported by the control arms.

9. A mudguard according to claim 8 characterised in that the arms are connected to a lug on the steering portion of the stub axle.

10. A mudguard according to the preceding claims characterised in that friction devices are provided at pivot points to damp out vibration.

11. A mudguard constructed and arranged substantially as described with reference to the accompanying drawings.

Dated this 30th day of October, 1928.

MEWBURN, ELLIS & Co.,
70 & 72, Chancery Lane, London, W.C. 2,
Chartered Patent Agents.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig 1

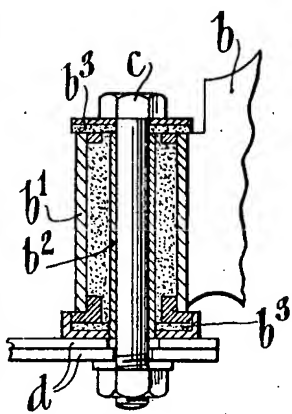
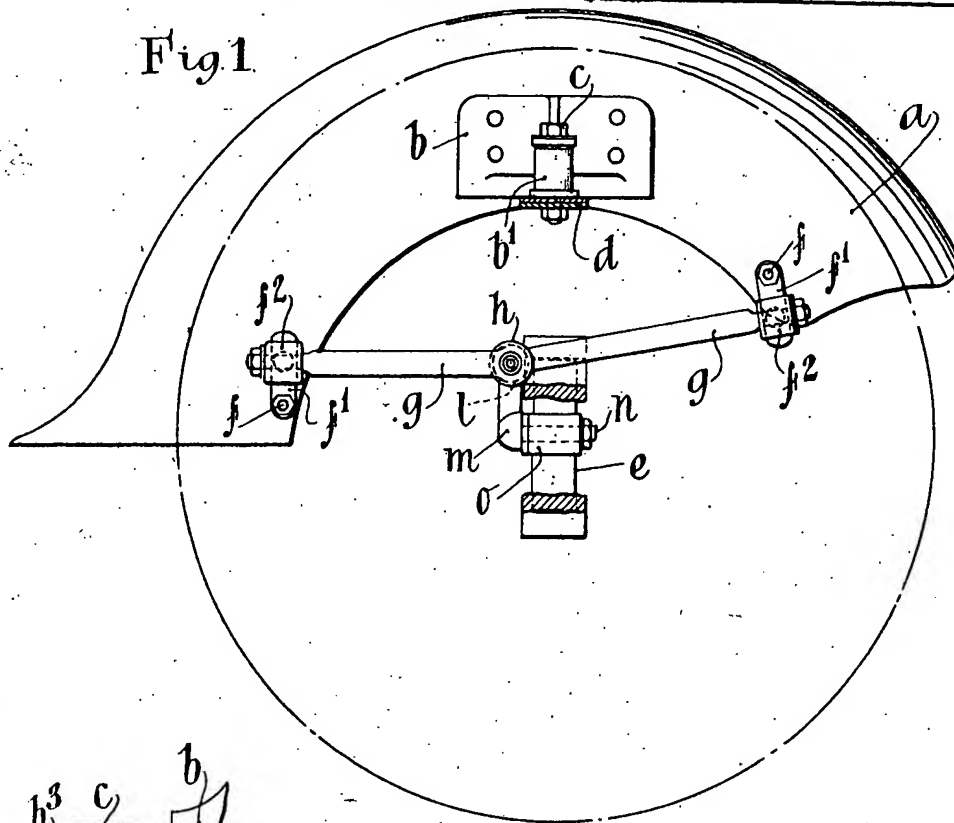


Fig 3.

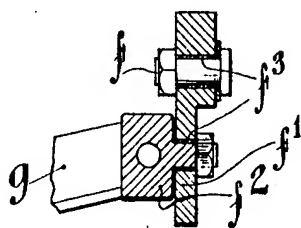
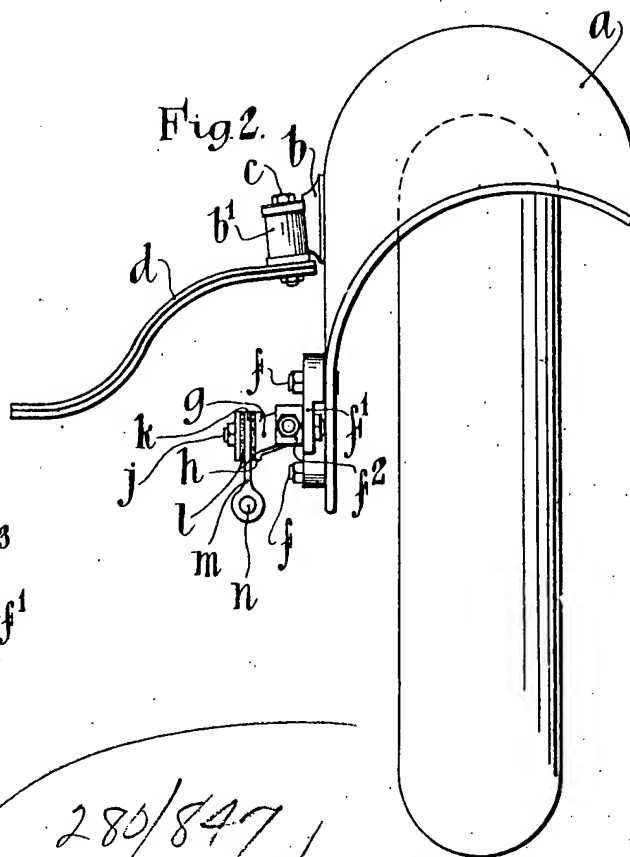


Fig 4.

Fig 2.



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